

distributed from a server or electronic bulletin board over the network (e.g., the Internet or World Wide Web). Of course, some embodiments of the invention may be implemented as a combination of both software (e.g., a computer program product) and hardware. Still other embodiments of the invention are implemented as entirely hardware, or substantially in software (e.g., a computer program product).

[0516] It should be noted that dimensions, sizes, and quantities listed herein are exemplary, and the present invention is in no way limited thereto. In an exemplary embodiment of the invention, a patch-sized fluid delivery device may be approximately 6.35 cm (~2.5 in) in length, approximately 3.8 cm (~1.5 in) in width, and approximately 1.9 cm (~0.75 in) in height, although, again, these dimensions are merely exemplary, and dimensions can vary widely for different embodiments.

[0517] While the principles of the invention have been described herein, it is to be understood by those skilled in the art that this description is made only by way of example and not as a limitation as to the scope of the invention. Other embodiments are contemplated within the scope of the present invention in addition to the exemplary embodiments shown and described herein. Modifications and substitutions by one of ordinary skill in the art are considered to be within the scope of the present invention.

What is claimed is:

1. A method for operating a wearable medical device, wherein said wearable medical device has a disposable assembly and reusable assembly releasably engageable to the disposable assembly; the disposable assembly having a reservoir with a fluid and the reservoir fluidly connected to a pump section with a fluid channel defining a volume and having an inlet portion, an exit portion and a flexible membrane between the inlet and exit portions; the reusable assembly having a control assembly, the method comprising:

engaging the disposable assembly to the reusable assembly;

flexing the flexible membrane with the control assembly to change the volume of the fluid channel to thereby move fluid from the inlet portion to the exit portion to pump the fluid from the reservoir; and

maintaining the fluid in the disposable assembly so that the fluid is not in contact with the reusable assembly.

2. The method of claim 1 wherein the inlet portion has an inlet valve, and the exit portion has an exit valve, and the method further comprises:

opening the inlet valve and closing the exit valve when the step of flexing the flexible membrane increases the volume of the fluid chamber.

3. The method of claim 1 wherein the inlet portion has an inlet valve, and the exit portion has an exit valve, and the method further comprises:

opening the exit valve and closing the inlet valve when the step of flexing the flexible membrane decreases the volume of the fluid chamber.

4. The method of claim 3 wherein the step of flexing the flexible member pressures the fluid and the opening of the exit valve is by the fluid pressure.

5. The method of claim 1 wherein the control assembly has an actuation member and changing the volume of the fluid channel is moving the actuation member against the flexible membrane.

6. The method of claim 5 wherein the step of flexing the flexible member is reducing the volume of the fluid channel by the actuation member compressing the flexible membrane.

7. The method of claim 5 wherein the step of flexing the flexible member is withdrawing the actuation member whereby the resiliency of the flexible membrane increases the volume of the fluid chamber.

8. The method of claim 5 wherein the disposable assembly has a backstop and the step of flexing the flexible member further comprises capturing the flexible membrane between the actuation member and the backstop.

9. The method of claim 2 wherein the inlet valve is one way.

10. The method of claim 3 wherein the exit valve is one way.

11. The method of claim 1 wherein the wearable medical devices has a measuring assembly, the method further comprising:

measuring the volume of fluid moved by the pump and control assemblies.

12. The method of claim 11 wherein the step of measuring the volume further comprises measuring the volume to a resolution of at least 10 nanoliters.

13. The method of claim 1 wherein the control assembly has a rotatable member with a plurality of projections and the step of flexing the flexible member is rotating the rotatable member whereby the plurality of projections contact the flexible member each in turn.

14. The method of claim 13 wherein the disposable assembly has a backstop and the step of flexing the flexible member further comprises capturing the flexible membrane between the projections and the backstop.

15. The method of claim 1 wherein the step of flexing the flexible member is the control assembly intermittently applying pulses of force to the flexible member.

16. The method of claim 1 wherein the pump assembly further has an inlet valve for closing the inlet portion and an exit valve for closing the exit portion, the method further comprising:

flexing the flexible surface;

closing in the exit portion with the exit valve;

opening the inlet portion;

releasing the flexible portion while the exit portion is closed and the inlet portion is open;

closing the inlet portion with the inlet valve;

opening the exit portion; and

flexing the flexible portion while the inlet portion is closed and the outlet portion is open; whereby the fluid is moved through the pump section.

17. A method for operating a wearable infusion device, wherein said wearable infusion device has a disposable assembly and reusable assembly releasably engageable to the disposable assembly; the disposable assembly having a reservoir with an infusible fluid and the reservoir fluidly connected to a pump section with a fluid channel and having an inlet portion, an exit portion, a flexible membrane between the inlet and exit portions and a backstop adjacent to the flexible member; the reusable assembly having a control assembly with a projection, the method comprising:

engaging the disposable assembly to the reusable assembly;

contacting the projection to the flexible membrane;